Government of Western Australia
Department of Water and Environmental Regulation

# Amendment Report

## Application for Licence Amendment

**Part V Division 3 of the *Environmental Protection Act 1986***

| | |
|---|---|
| **Licence Number** | L9335/2022/1 |
| **Licence Holder** | Thunderbird Operations Pty Ltd |
| **ACN** | 611 351 743 |
| **File Number** | DER2022/000219 |
| **Premises** | Thunderbird Mineral Sands Project<br><br>Legal description –<br><br>Mining tenement L04/85, part of L04/86, part of M04/459, part of L04/84, L04/82 and L04/83<br><br>WATERBANK WA 6725<br><br>As defined by the coordinates in Schedule 2 of the Revised Licence |
| **Date of Report** | 14 May 2024 |
| **Decision** | Revised licence granted |

Jarrod Abrahams

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**MANAGER, RESOURCE INDUSTRIES REGULATORY SERVICES**
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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# 1. Decision summary

Licence L9335/2022/1 is held by Thunderbird Operations Pty Ltd (Licence Holder) for the Thunderbird Mineral Sands Project (the Premises), located approximately 75 km south-west of Derby.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the operation of the Premises. As a result of this assessment, Revised Licence L9335/2022/1 has been granted.

# 2. Scope of assessment

## 2.1 Regulatory framework

In completing the assessment documented in this Amendment Report, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at https://dwer.wa.gov.au/regulatory-documents.

## 2.2 Amendment summary

On 09 January 2024, the Licence Holder submitted an application (MBS Environmental, 2024) to the department to amend Licence L9335/2022/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act).

The amendment is to include the operation of the following infrastructure constructed under works approval W6088/2017/1:

- Stage 1 Processing Plant which includes the Wet Concentrator Plant (WCP) and Concentrate Upgrade Plant (CUP) (referred to as WCP/CUP 1) and Process Water (PW) Ponds – refer to Section 2.2.1;
- Tailings Storage Facility (TSF) - refer to Section 2.2.2; and
- Stormwater Storage Pond (SSP) – refer to Section 2.2.3.

Works approval W6088/2017/1 is due to expire on the 22 August 2024. The Stage 2 Process Plant (referred to as Phase 5 – Process Plant WCP/CUP 2) under W6088/2017/1 has not been constructed. Construction of WCP/CUP 2 is planned for the middle of 2027 and operation commencing from 2029.

Rather than extend the expiry date of W6088/2022/1, the Delegated Officer determined that the outstanding construction requirements for WCP/CUP 2 could be transferred to the licence under this amendment.

On 26 March 2024 the Licence Holder submitted an addendum (TOPL 2024a) to the amendment application and requested that the Stage 2 Processing Plant construction requirements under W6088/2017/1 be incorporated onto L9335/2022/1. An increase in the mining rate in line with the increased production capacity of the added processing infrastructure was also requested. On 8 May 2024, the Licence Holder advised (TOPL 2024b) that an increase to the mining rate to 30,000,000 tonnes per annum has been reviewed and is no longer required. Stage 2 mining rate is to remain as 25,000,000 tonnes per annum.

This amendment is limited only to changes relating to Category 8 activities. No changes to the approved design capacities for Category 54 and 89 have been requested by the Licence Holder – refer to Table 1.

**Table 1: Design or throughput capacity changes**

| Category | Current design capacity | Proposed design capacity | Description of proposed amendment |
|---|---|---|---|
| 8 | 12,500,000 tonnes per annum | 25,000,000 tonnes per annual period | Inclusion of Stage 2 mining as assessed under works approval W6088/2022/1 |
| 54 | WWTP 1: 100 $m^3$/day<br>WWTP 2: 17.5 $m^3$/day | No change | N/A |
| 89 | 1,100 tonnes per annum | No change | N/A |

### 2.2.1 Processing Plant (WCP/CUP 1) and PW Ponds

Ore is processed in two stages as outlined below and shown in Figure 1.

**Primary Processing - WCP**

The function of the WCP is to produce a high grade heavy mineral concentrate (HMC) by means of spiral gravity concentrators. The slurry line from the mining unit feeds a feed preparation plant, consisting of screening decks to screen out oversize greater than 12 mm.

The undersize is pumped to a de-sliming circuit consisting of cyclones and a further screening process which removes oversize greater than 2 mm. Overflow from the de-sliming cyclone reports to a slimes thickener to reject slimes and recover water for recycling within the process.

The de-sliming circuit underflow is fed to a spiral circuit consisting of seven stages to produce HMC and a tailings stream. The tailings from the spiral circuit are dewatered in cyclones. The underflow from the cyclones reports to the co-disposal tailings bin together with the slimes thickener underflow. The overflow of the thickener reports to the PW Ponds, while the overflows from the tailings dewatering cyclones report to the slimes thickener. The slurry in the co-disposal bin is pumped to the TSF.

**Secondary Processing – CUP**

The purpose of the CUP is to separate the magnetic minerals (predominantly ilmenite) from the non-magnetic minerals (predominantly zircon) using Wet High Intensity Magnetic Separators (WHIMS) and then further upgrade the non-magnetic fraction in spiral separators.

The CUP consists of two-stage WHIMS circuit to perform preliminary magnetic separation. The CUP non-magnetic stream is processed through a five-stage spiral separator circuit, which includes an additional spiral separator stage. The concentrate from the preliminary stage is then processed through a CUP Non-magnetic Finisher Process that includes an additional WHIMS magnetic stage to produce a magnetic concentrate (Paramagnetic Concentrate). The non-magnetics from the WHIMS stage are processed through a three-stage spiral separation stage to produce a final Non-Magnetic Concentrate.

Waste material from this process is incorporated in the tails stream from the WCP and transferred to the TSF.

**Product load-out**

The three final products produced for export from the premises are:

- Non-Magnetic Concentrate product ($ZrO_2$ ~39%) that includes a high percentage of titanium units ($TiO_2$~25%).
- Magnetic Concentrate which is a 30‑47% $TiO_2$ and iron rich ilmenite.
- Paramagnetic Concentrate which is a co-product stream containing zircon, ilmenite and monazite as well as reject and residual silica and aluminosilicates.

The product is stored in open stockpiles and then loaded onto road trains for bulk export through either the Port of Broome or Port of Derby.

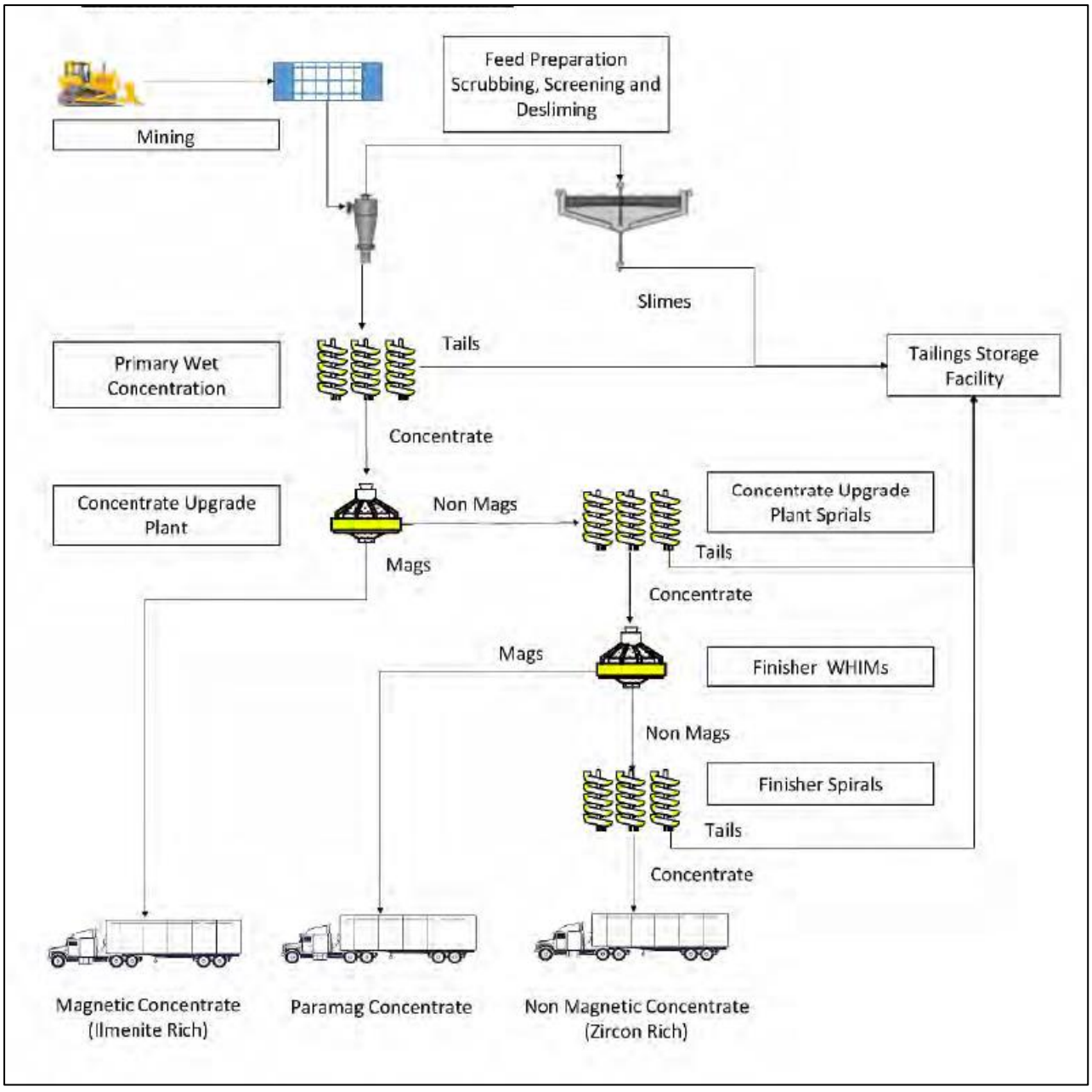


**Figure 1: Processing flowchart**

**PW Ponds**

The PW Ponds capture and retain fresh groundwater and receive return water from the TSF, SSP and pit sumps for re-use in processing. The PW Ponds consist of three high density polyethylene (HDPE) lined ponds:

- Settling Pond 1;
- Settling Pond 2; and
- PW Pond.

Refer to Section 3 for the risk assessment for the infrastructure / activities associated with the Processing Plant and PW Ponds.

### 2.2.2 TSF

An above ground TSF has been constructed immediately south of the processing plant as shown in Figure 2. The key characteristics of the TSF are shown in Table 2.

**Table 2: Key characteristics of the TSF (MBS Environmental 2024)**

| Characteristics | Description |
|---|---|
| **TSF** | |
| Type | Engineered above ground |
| Footprint | 110.3 ha |
| Height | 14 m (at 2 years) |
| Storage Capacity | 19.01 Mt |
| Tailings Density | Delivered at approximately 51% solids (by weight). Settling to a stored density of 1.5 t/m$^3$ |
| Tailings Deposition Method | Spigots, cyclic tailings deposition up and down a central deposition embankment |
| Water Management System | Internal lined TSF sump, water is pumped directly from the sump to the Process Plant |

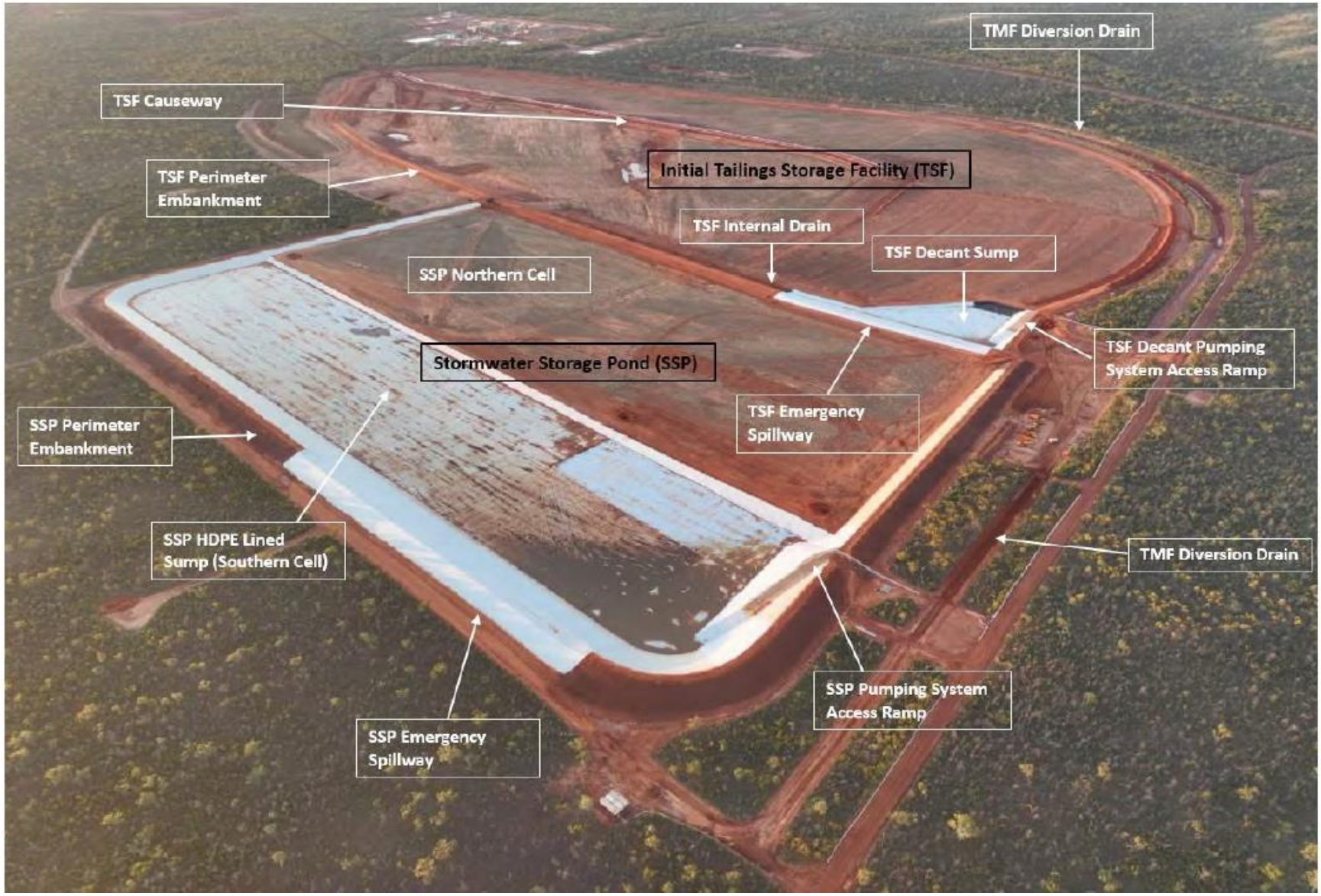


**Figure 2: TSF and SSP layout**

Tailings are produced in two streams in the Processing Plant – sands and slimes. The produced tailings are combined in the Co-disposal Hopper at the Processing Plant. The combined tailings are then pumped to the TSF via a Tailings Transportation Pipeline.

The Tailings Transportation Pipeline is connected to the Tailings Disposal Skid located at the TSF. The tailings are deposited in the TSF via the Tailings Distribution Spigot System, which consists of two arms – north and south. To enhance the solid/water separation a polymer flocculant (polyacrylamide) is added to the tailings pipeline at the discharge point (i.e. pipe head flocculation). The polymer flocculants are prepared and dosed at a Flocculant Plant which is located at the TSF. The Tailings Disposal Skid is used to switch the flocculant dosing between the north and south arms.

Water from the tailings is directed to a HDPE lined sump (TSF Decant Sump). The Decant Sump also captures water from incidental rainfall. The collected water in the sump is pumped back to the PW Ponds via the thickener for reuse.

Refer to Figure 3 for the process flow chart.

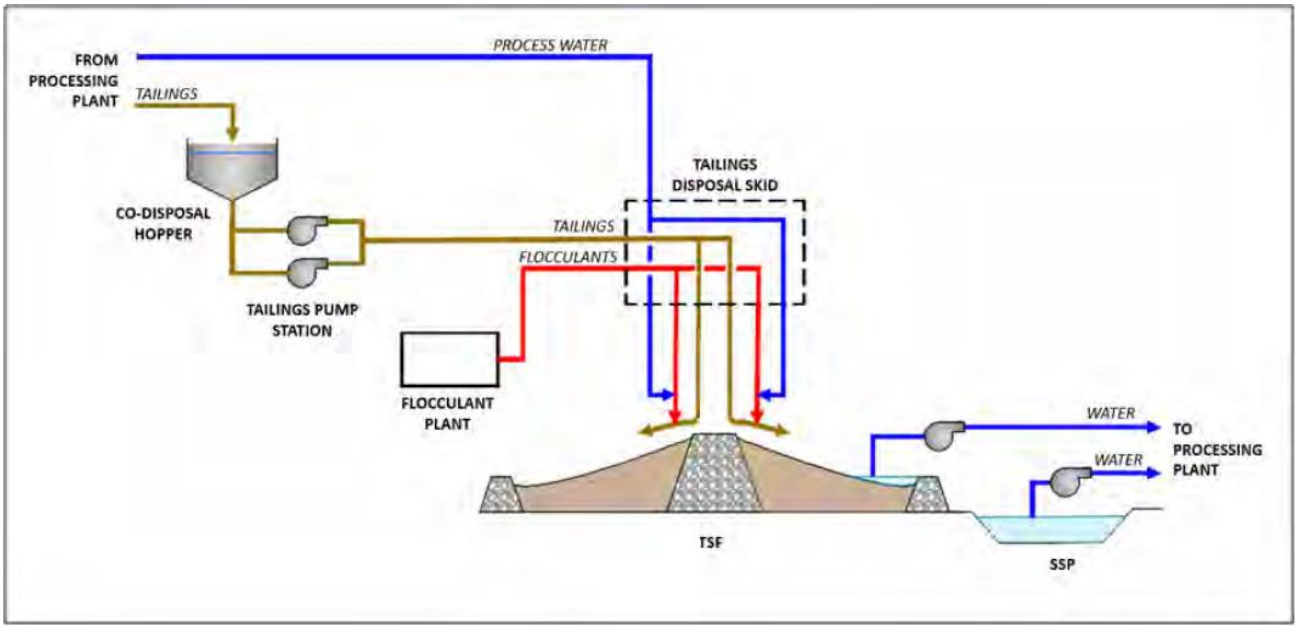


**Figure 3: Tailings disposal process flow chart**

Tailings geochemistry

The TSF will consist of tailings derived from the mined material above the groundwater table, from the oxidised zone. There are no known Potentially Acid-Forming (PAF) materials above the groundwater table. MBS Environmental were engaged by the Licence Holder to undertake tailings geochemical testing at the Premises.

Four process residue samples and two oversize ore streams (process waste streams) from metallurgical trials for the project were tested and results concluded the following:

- All the tailings samples indicated that the tailings will be Non-Acid-Forming (NAF) and barren with no capacity for acid generation or acid neutralisation.
- Predicted concentrations of soluble salts, metals and metalloids in seepage are expected to be extremely low.
- Low overall (in relation to waste volumes) levels of calcium sulphate and calcium carbonate will gradually be mobilised by leaching from the ‘gypsum’ residue; however, seepage water quality will mostly reflect process groundwater quality as drawn from local aquifers.

- Although various residues are geochemically enriched in thorium, uranium, lead and selenium, these elements were not found to be mobile, even under artificially applied acidic conditions.
- All process waste streams are thus considered environmentally benign for the project but will have a tendency towards dispersive behaviour, however, this will be managed on-site by use of flocculants in process water.

Refer to Section 3 for the risk assessment for the TSF.

### 2.2.3 SSP

The SSP is an above ground engineered dam and has been designed as a single pond with two cells (Northern cell and Southern cell) as shown in Figure 2.

The Northern cell is unlined and sized to allow storage of TSF overflow from a 1-in-100-year Average Recurrence Interval (ARI) event.

There is no embankment between the two cells and the Southern cell is topographically lower than the Northern cell, with the Northern cell graded down to report to the Southern cell.

The Southern cell is HDPE lined and used to store approximately 0.3 gigalitres (GL) of raw water from the borefield to supply the Process Plant.

Stormwater and any overflow water from the TSF reports to the Northen cell and then flows to the lowest point of the SSP inside the Southern cell. Water from the SSP sump is pumped into the Return Water System (RWS) trunk line located downstream where water is then conveyed to the PW Ponds for reuse.

Refer to Section 3 for the risk assessment for the SSP.

## 2.3 Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)

The Licence Holder was given approval under the EPBC Act (EPBC 2016/7648) on 27 September 2018, subject to conditions relating to the protection of the Greater Bilby (*Macrotis lagotis*).

## 2.4 Mines Safety and Inspection Act 1994 and Radiation Safety Act 1975 (WA)

Radiation safety in mineral sands mines in Western Australia is regulated under the *Mines Safety and Inspections Act 1994* administered by the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS).

Naturally occurring radioactive materials (NORMs) contain the elements thorium and uranium which are associated with heavy minerals, and in particular with monazite. Ore, waste and product materials generated by the mining and processing of heavy mineral sands onsite has the potential to impact human health by exposure to radiation. As the Premises will generate significant quantities of project and various waste materials for return to the mining void, these materials will be classed and regulated as radioactive substances under the *Radiation Safety Act 1975*, administered by the Radiological Council.

A Radiation Management Plan has been developed for the Premises which outlines the management measures for return of waste materials to the mine void for later rehabilitation and to ensure worker and public radiation exposures are managed in accordance with the legislation. The Radiation Management Plan is regulated by DEMIRS and the Radiological Council, not the Department of Water and Environmental Regulation.

## 2.5 Aboriginal Heritage Act 1972

A Coexistence Agreement acknowledging the respective interests within the Mining Lease M04/459, and the agreed conduct of the Project operations has been authorised. This agreement includes an agreed Heritage buffer within M04/459 which excludes Licence Holder access over the mine life. A Section 18 Ministerial granted for Registered Aboriginal Site 37263 over M04/459 provides the Licence Holder access to its mine lease.

## 2.6 Part IV of the EP Act

The Thunderbird Mineral Sands Project was assessed by the Environmental Protection Authority (EPA) and approved under Ministerial Statement (MS) 1080.

MS 1080 includes conditions relating to the following:

- Condition 6 - Terrestrial Fauna Environmental Management to demonstrate how impacts to the Greater bilby will be minimised; and ensure there is no material harm to the Greater Bilby population and Dampier Peninsula goanna population outside of the mine development envelopment.
- Condition 7 – Aboriginal Heritage including the Claypan Mining Exclusion Zone.
- Condition 8 – Groundwater drawdown restrictions which ensures that groundwater drawdown associated with the proposal does not result in the spatial extent of the drawdown exceeding the two metre groundwater drawdown contour.
- Condition 9 – Greater Bilby habitat rehabilitation plan and performance report.
- Condition 12 – Greenhouse Gas reporting.

Requirements of MS 1080 are not re-assessed in this Amendment Report and are not duplicated as conditions in the existing Licence.

# 3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk assessments* (DWER 2020).

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

## 3.1 Source-pathways and receptors

### 3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which have been considered in this Amendment Report are detailed in Table 3 below. Table 3 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

**Table 3: Licence Holder controls (MBS Environmental 2023 and 2024)**

| Emission | Sources | Potential pathways | Proposed controls |
|---|---|---|---|
| Dust | Processing of mineral sands<br>Material handling and transport activities onsite<br>Lift-off from stockpiles | Air/windborne pathway | • Vehicles and mining equipment kept to designated roads.<br>• Vehicles to travel at safe operating speeds on unsealed roads.<br>• Watering of unsealed roads with a water cart or with fixed sprays.<br>• Dust suppression carried out during operation and closure. |
| Noise / vibration | Processing of mineral sands<br>Material handling and transport activities onsite | Air/windborne pathway | • Compliance with the *Environmental Protection (Noise) Regulations 1997*.<br>• All vehicle and plant equipment regularly maintained to ensure they are operating efficiently and are not unduly noisy. |
| Hydrocarbon spills or discharge | | Discharges to land | • All hydrocarbon storage facilities have been constructed in accordance with Australian Standards AS1940, AS1692, AS3780 and AS4452.<br>• Where contaminants are likely to include hydrocarbons, water directed to an oil-water separation system.<br>• Spill kits located at strategic locations throughout the project area. |
| Sediment laden / contaminated stormwater | Overland runoff | Discharges to land | • Diversion bunds constructed around the processing plant to separate clean and potentially contaminated water.<br>• Runoff from the processing plant area and runoff from the product stockpiles are directed to containment ponds.<br>• Containment ponds designed to contain sediment and accommodate a 1:20 year, 24-hour storm event.<br>• Freeboard in the containment ponds is maintained by a high-level float switch on the pumps.<br>• Pumps in the containment ponds allow water to be pumped to the PW Ponds for reuse in the process water circuit.<br>• A perimeter diversion drain diverts rainfall runoff from the surrounding landscape around the TSF. |
| Dust lift-off | Tailings surface | Air/windborne pathway | • Tailings from the process plant are sent to the TSF as a slurry with flocculant added, the tailings has an approximate |

| Emission | Sources | Potential pathways | Proposed controls |
|---|---|---|---|
| | | | moisture content of 60%.<br>• During lift and TSF construction works water carts are in use to aid in dust suppression. |
| Tailings seepage | Deposition of benign sands and slime residue (as a single tailings stream) to the TSF | Seepage to groundwater | • Tailings delivered at approximately 51% solids (by weight).<br>• Cyclic tailings deposition up and down a central deposition embankment.<br>• Co-disposal with pipehead flocculation.<br>• Water from the tailings and surface runoff from the TSF is guided via a channel cut into the TSF to a HDPE lined sump.<br>• A floating pump intake with skid-mounted pump system extracts water from the sumps and transfers this to the PW Ponds for reuse in the Process Plant.<br>• HDPE geomembrane liner placed across the entire spillway section and anchored on the embankment crest and both the upstream and downstream sides.<br>• A series of six groundwater monitoring bores installed around the TSF and SSP to monitor groundwater level and quality – refer to Figure 4 and Section 3.1.3. |
| Spillage of tailings and decant return water through leaks, pipeline ruptures or failure | Tailings delivery and RWS pipelines | Discharges to land | • Tailings pipelines are located within earthen bunds and sumps are located at low points along the pipeline routes.<br>• Pipelines are fitted with flow meters and leak detection sensors.<br>• Isolation valves are incorporated at appropriate intervals.<br>• Periodic visual inspections are undertaken. |
| Tailings or tailings water | Overtopping of TSF | Discharges to land | • Thickened tailings are discharged from a deposition point which cycles up and down a central deposition embankment.<br>• Designed to contain rainfall associated with a 1-in-100-year, 72-hour storm event, whilst maintaining a 500 mm freeboard.<br>• In the case of an extreme flood event, excess water in the TSF overflows to the Northen cell of the SSP via a spillway. From the Northern cell it flows to the sump (located at the lowest point of the SSP) inside the Southern cell where the |

| Emission | Sources | Potential pathways | Proposed controls |
|---|---|---|---|
| | | | RWS pumps it back to the PW Ponds for reuse in the Process Plant.<br>• Daily inspections of the TSF undertaken. |
| TSF return water containing metals and metalloids | Seepage from SSP | Seepage through SSP base or containment wall | • Northern cell is compacted base and graded down to report to the Southern cell.<br>• Southern cell is HDPE lined.<br>• Minimal operational sump of 400 mm depth maintained within the SSP. |
| | Overtopping of SSP | Discharges to land | • SSP designed to accommodate the required 0.3 GL raw water supply in the Southern Cell, together with the design storm (1:100 Annual Exceedance Probability (AEP), 72-hour event) from the combined TSF and SSP system, as well as any lateral seepage from the TSF.<br>• Northern cell is graded down to report to the sump in the Southern cell. Water in this sump is pumped by the RWS back to the PW Ponds.<br>• Excess water is pumped into the RWS pipeline downstream which then conveys water to the PW Ponds.<br>• In the event of sustained high rainfall filling the SSP to spillway level, a controlled release of water to the environment occurs.<br>• In accordance with the Thunderbird Operations Surface Water Management Plan, during extreme rain events water quality samples from all storage infrastructure with the potential to spill is undertaken. |
| Process water typically comprising fresh groundwater, sediments and process liquor | Overtopping of the PW Ponds | Discharges to land | • Designed and operated with sufficient freeboard to accommodate the volume of excess rainfall run-off resulting from 1:100 AEP, 72-hour flood event.<br>• PW Ponds are HDPE lined. |

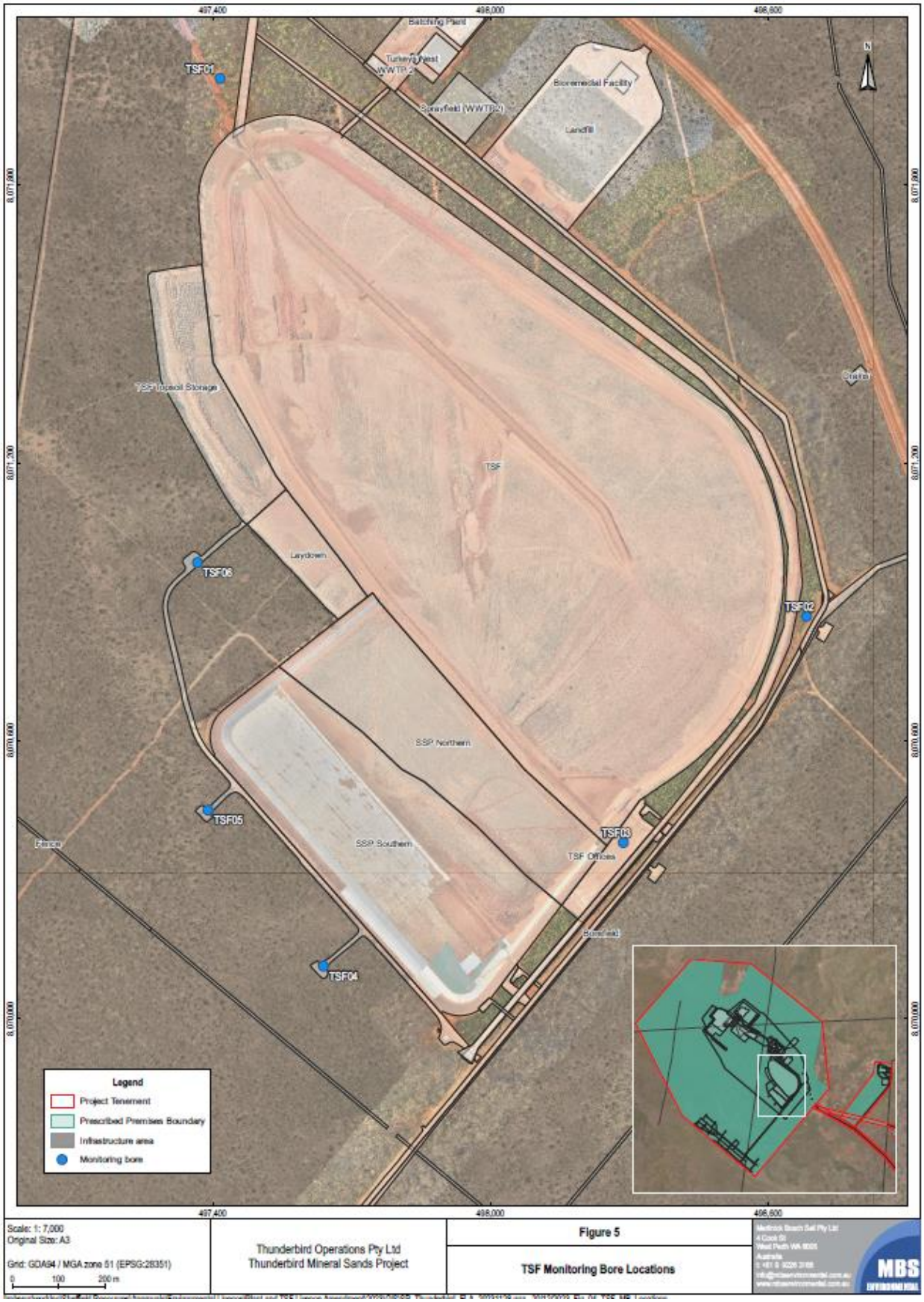


**Figure 4: TSF and SSP groundwater monitoring bore locations**

### 3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the Delegated Officer has excluded employees, visitors and contractors of the Licence Holder's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

The Thunderbird Accommodation Village is located approximately 3.5 km from the TSF. As this Village is operated by the Licence Holder it is not considered a sensitive receptor for the purpose of this assessment.

Table 4 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises *(Guideline: Environmental siting* (DWER 2020)).

**Table 4: Sensitive human and environmental receptors and distance from prescribed activity**

| **Human receptors** | **Distance from prescribed activity** |
|---|---|
| Mt Jowlaenga pastoral homestead | Approximately 8 km away |
| **Environmental receptors** | **Distance from prescribed activity** |
| Threatened and/or priority fauna | Three conservation significant species have been recorded at the Premises. These are the Greater Bilby, Short-tailed Mouse and the Rainbow Bee—eater. The project has the potential to impact upon the Greater Bilby and Short-tailed Mouse habitat.<br><br>The Short-tailed Mouse's habitat preference includes the Pindan Shrubland and Savannah Woodland habitats. *TOPL 2021* states that 82% of potential habitat is still available for colonisation outside of the disturbance areas in which displaced individuals are expected to relocate.<br><br>Evidence of the Priority 1 species Dampierland Peninsula Goanna (*Varanus sparnus*) was found during fauna surveys. This species is not found within the prescribed premises boundary. |
| Aboriginal and other heritage sites | One Registered Aboriginal Site is located within the Project (Mt Jowlaenga, site ID 37263).<br><br>The nearest other Heritage Place is the Nilli Bubbaca Well about 2 km from the intersection of the Site Access Road and Great Northern Highway.<br><br>**Not considered further in this assessment - Refer to Section 2.5.** |
| Surface water bodies | The Fraser River is located approximately 7 km north of the Premises, with tributaries that extend down to the north of the Premises. |
| Underlying groundwater | Broome Sandstone Aquifer underlying Premises. The water table elevation over the Premises ranges from about 72 m Australian Height Datum (AHD) in the south to about 75 m AHD in the north at the edge of the deposit. |

| | |
|---|---|
| | Groundwater is generally 32 m below ground level (mBGL) in the TSF area and 30 mbgl in the Process Plant and PW Ponds localities.<br>Groundwater conductivity ranging from 124 – 370 µS/cm.<br>Groundwater is predominantly of sodium-chloride type, with a slightly basic to circum-neutral pH. |
| Livestock (cattle) | The northern part of the Premises is located within the Mt Jowlaenga Pastoral Station and the southern part is located within the Yeeda Pastoral Station.<br>Both pastoral stations are owned by Yeeda Australian Rangeland Meat Pty Ltd and produce beef products. |

### 3.1.3 Hydrogeology

A series of six groundwater monitoring bores have been installed around the TSF and SSP (refer to Figure 4) to monitor groundwater level and quality.

Condition 22 of works approval W6088/2017/1 required groundwater monitoring to be undertaken prior to the commencement of tailings deposition to provide baseline data for the following parameters:

- Standing Water Level (SWL)
- pH
- Electrical Conductivity
- Redox Potential
- Major ions: bicarbonate, calcium, chloride, magnesium, potassium, sodium, sulfate, total dissolved solids
- Metals and metalloids: aluminum, arsenic, cadmium, chromium (total Cr and CrVI), cobalt, copper, iron, mercury, nickel, selenium, thallium, uranium and zinc.

The results are provided in Tables 5, 6 and 7.

**Table 5: Average SWL from the TSF bores between January and September 2023, including variance**

| | TSF01 | TSF02 | TSF03 | TSF04 | TSF05 | TSF06 |
|---|---|---|---|---|---|---|
| **SWL (mTOC)** | 31.41 | 37.3 | 31.97 | 28.77 | 28.33 | 31.23 |
| **Variance (m)** | 0.02 | 0.01 | 0 | 0.05 | 0.01 | 0.01 |

## Table 6: TSF groundwater monitoring results

| Parameter | | pH (Lab) | Electrical Conductivity (Lab) | Redox potential | Total Dissolved Solids (Lab) | Aluminium | Arsenic | Cadmium | Chromium (CrVI) | Cobalt | Copper | Iron | Mercury | Nickel | Selenium | Thallium | Uranium | Zinc |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Units | | pH unit | µS/cm | mV | mg/L | | | | | | | | | | | | | |
| | | Limit of Reporting | | | | | | | | | | | | | | | | |
| Monitoring Location[1] | Date sampled / analysed | 0.01 | 1 | | 10 | 0.01 | 0.001 | 1E-04 | | | | 0.05 | 1E-04 | | 0.001 | | | 0.005 |
| TSF01 | 14/11/2022 | 7.05 | 260 | | 156 | 0.22 | 0.001 | <0.0001 | <0.001 | | | 0.08 | <0.0001 | | <0.01 | | | <0.005 |
| | 16/09/2023 | 5.8 | 120 | | 100 | 0.009 | 0.001 | <0.0001 | 0.001 | 0.001 | 0.001 | 0.005 | <0.00005 | 0.001 | 0.001 | | | <0.005 |
| | 18/04/2024 | | | 143.2 | | 0.015 | <0.001 | <0.0001 | 0.001 | <0.001 | <0.001 | 0.039 | <0.00005 | 0.007 | <0.001 | <0.001 | <0.001 | 0.023 |
| TSF02 | 14/11/2022 | 6.49 | 182 | | 154 | 0.02 | <0.001 | <0.0001 | <0.001 | | | 0.12 | <0.0001 | | <0.01 | | | 0.024 |
| | 15/09/2023 | 7.0 | 140 | | 130 | <0.005 | <0.001 | <0.0001 | <0.001 | <0.001 | 0.002 | <0.005 | <0.00005 | 0.002 | <0.001 | | | <0.005 |
| | 18/04/2024 | | | 153.1 | | 0.011 | <0.001 | <0.0001 | 0.002 | <0.001 | <0.001 | 0.015 | <0.00005 | 0.002 | <0.001 | <0.001 | <0.001 | 0.028 |
| TSF03 | 14/11/2022 | 6.85 | 190 | | 149 | 0.04 | <0.001 | <0.0001 | <0.001 | | | 0.09 | <0.0001 | | <0.01 | | | 0.005 |
| | 15/09/2023 | 7.0 | 160 | | 150 | <0.005 | <0.001 | <0.0001 | <0.001 | <0.001 | <0.001 | 0.13 | <0.00005 | 0.001 | <0.001 | | | <0.005 |
| | 18/04/2024 | | | 117.5 | | <0.005 | <0.001 | <0.0001 | <0.001 | <0.001 | <0.001 | 0.006 | <0.00005 | 0.003 | <0.001 | <0.001 | <0.001 | 0.007 |
| TSF04 | 14/11/2022 | 8.22 | 240 | | 953 | 0.03 | <0.001 | <0.0001 | <0.001 | | | 0.13 | <0.0001 | | <0.01 | | | <0.005 |
| | 16/09/2023 | 6.3 | 240 | | 220 | <0.005 | <0.001 | <0.0001 | <0.001 | <0.001 | <0.001 | 0.006 | <0.00005 | <0.001 | <0.001 | | | <0.005 |
| | 18/04/2024 | | | 148.5 | | 0.006 | <0.001 | <0.0001 | 0.001 | <0.001 | <0.001 | 0.007 | <0.00005 | 0.043 | <0.001 | <0.001 | <0.001 | 0.018 |
| TSF05 | 14/11/2022 | 7.39 | 322 | | 217 | 0.04 | <0.001 | <0.0001 | <0.001 | | | 0.08 | <0.0001 | | <0.01 | | | <0.005 |
| | 16/09/2023 | 6.7 | 280 | | 210 | <0.005 | <0.001 | <0.0001 | <0.001 | <0.001 | <0.001 | <0.005 | <0.00005 | | | | | |
| | 18/04/2024 | | | 136.9 | | <0.005 | <0.001 | <0.0001 | <0.001 | <0.001 | <0.001 | <0.005 | <0.00005 | 0.002 | <0.001 | <0.001 | <0.001 | 0.008 |
| TSF06 | 14/11/2022 | 7.55 | 241 | | 149 | 0.02 | <0.001 | <0.0001 | <0.001 | | | <0.05 | <0.0001 | | <0.01 | | | <0.005 |
| | 16/09/2023 | 7.5 | 280 | | 240 | <0.005 | <0.001 | <0.0001 | <0.001 | <0.001 | <0.001 | <0.005 | <0.00005 | <0.001 | <0.001 | | | <0.005 |
| | 18/04/2024 | | | 104.1 | | <0.005 | <0.001 | <0.0001 | <0.001 | <0.001 | <0.001 | <0.005 | <0.00005 | 0.004 | <0.001 | <0.001 | <0.001 | 0.012 |

Note 1: Refer to Figure 4 for the monitoring bore locations

**Table 7: TSF groundwater monitoring results (cont.)**

| Parameter | | Bicarbonate | Calcium | Chloride | Magnesium | Potassium | Sodium | Sulphate |
|---|---|---|---|---|---|---|---|---|
| Unit | | mg/L | | | | | | |
| | | Limit of Reporting | | | | | | |
| Monitoring Location[1] | Date sampled / analysed | 1 | 1 | 1 | 1 | 1 | 1 | |
| TSF01 | 14/11/2022 | 20 | 3 | 54 | 5 | 1 | 34 | 14 |
| | 16/09/2023 | 8 | 2.3 | 27 | 2.4 | 0.4 | | 5 |
| | 18/04/2024 | 12 | 2.7 | 28 | 2.4 | 0.6 | 16 | 4 |
| TSF02 | 14/11/2022 | 39 | 10 | 33 | 4 | | 22 | 2 |
| | 15/09/2023 | 13 | 1.0 | 30 | 2.6 | 0.5 | 19 | <1 |
| | 18/04/2024 | 38 | 1.1 | 38 | 2.7 | 0.7 | 19 | <1 |
| TSF03 | 14/11/2022 | 32 | | | 4 | 2 | 24 | 4 |
| | 15/09/2023 | 17 | 2.3 | 35 | 3.3 | 1.0 | 22 | 1 |
| | 18/04/2024 | 17 | 2.2 | 38 | 3.0 | 1.0 | 22 | 2 |
| TSF04 | 14/11/2022 | 169 | | | 4 | 2 | 481 | 48 |
| | 16/09/2023 | 30 | 3.7 | 57 | 4.0 | 2.4 | 32 | 3 |
| | 18/04/2024 | 26 | 8.9 | 42 | 3.3 | 2.2 | 25 | 16 |
| TSF05 | 14/11/2022 | | | | 8 | 3 | 3 | 3 |
| | 16/09/2023 | 32 | 3.7 | 69 | 7.1 | 1.4 | 36 | 2 |
| | 18/04/2024 | 55 | 2.0 | 17 | 3.3 | 0.4 | 19 | 4 |
| TSF06 | 14/11/2022 | | | | 4 | 2 | 38 | 4 |
| | 16/09/2023 | 34 | 2.4 | 66 | 4.8 | 1.5 | 38 | 15 |
| | 18/04/2024 | 33 | 2.5 | 360 | 5.1 | 1.5 | 44 | 120 |

Note 1: Refer to Figure 4 for the monitoring bore locations

## 3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the Licence Holder has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the Licence Holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the Licence Holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 8.

The Revised Licence L9335/2022/1 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises.

The conditions in the Revised Licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

## Table 8. Risk assessment of potential emissions and discharges from the Premises during operation

| Risk Event | | | | | Risk rating[1]<br>C = consequence<br>L = likelihood | Licence Holder's controls sufficient? | Conditions[2] of licence | Justification for additional regulatory controls |
|---|---|---|---|---|---|---|---|---|
| **Source/Activities** | **Potential emission** | **Potential pathways and impact** | **Receptors** | **Licence Holder's controls** | | | | |
| **Operation** | | | | | | | | |
| Processing of mineral sands<br>Material handling and transport activities onsite<br>Lift-off from stockpiles | Dust | Air/windborne pathway causing impacts to vegetation including ability for photosynthesis due to smothering | Vegetation | Refer to Section 3.1 | C = Slight<br>L = Possible<br>**Low Risk** | Y | General provisions of the EP Act apply<br>Existing condition 1 relating to dust suppression at active mine pits and Mining Unit Plant | N/A |
| Processing of mineral sands<br>Material handling and transport activities onsite | Noise | Noise and vibration impacts on fauna and their habitats | Threatened and/or Priority Fauna | Refer to Section 3.1 | N/A | N/A | Managed under Part IV of the EP Act by MS 1080 to ensure there is no material harm to the Greater Bilby population and Dampier Peninsula goanna population outside of the mine development envelopment (refer to Section 2.6)<br>Also managed under EPBC 2016/7648 which relates to the protection of the Greater Bilby (refer to Section 2.3) | N/A |
| | Hydrocarbon spills or discharge | Direct discharge and path of flow causing contamination of soils and vegetation | Soils and vegetation at the site of the spill and along the flow path | Refer to Section 3.1 | C = Slight<br>L = Unlikely<br>**Low Risk** | Y | No conditions imposed<br>*Dangerous Goods Safety Act 2004* and its associated Regulations; and the *Environmental Protection (Unauthorised Discharges) Regulations 2004* apply | N/A |

| Risk Event | | | | | Risk rating[1]<br>C = consequence<br>L = likelihood | Licence Holder's controls sufficient? | Conditions[2] of licence | Justification for additional regulatory controls |
|---|---|---|---|---|---|---|---|---|
| **Source/Activities** | **Potential emission** | **Potential pathways and impact** | **Receptors** | **Licence Holder's controls** | | | | |
| Overland runoff | Sediment laden / contaminated stormwater | Direct discharges to land causing contamination of soils due to presence of hydrocarbons and chemicals in stormwater<br>Impact to health and viability of vegetation by smothering with sediment | Soils and vegetation at site of spill and along flow path of contaminated stormwater | Refer to Section 3.1 | C = Moderate<br>L = Unlikely<br>**Medium Risk** | Y | Licence Holder's controls imposed through:<br>Condition 1 for the processing plants requiring runoff to be directed to the Containment Ponds<br>Condition 1 for the perimeter diversion drain around the TSF | N/A |
| Tailings surface | Dust lift-off | Air/windborne pathway causing impacts to vegetation including ability for photosynthesis due to smothering | Vegetation | Refer to Section 3.1 | C = Slight<br>L = Unlikely<br>**Low Risk** | Y | No conditions imposed<br>General provisions of the EP Act apply | N/A |
| Deposition of benign sands and slime residue (as a single tailings stream) to the TSF | Tailings seepage containing metals and metalloids (geochemically enriched in thorium, uranium, lead and selenium) | Seepage to groundwater due to tailings and water management within the TSF resulting in contamination of the underlying aquifer and, groundwater mounding | Groundwater (quality and levels) | Refer to Section 3.1 | C = Moderate<br>L = Possible<br>**Medium Risk** | N | Licence Holder's conditions imposed through:<br>Condition 1 – Operational requirements for the TSF<br>Condition 7 – Authorised discharge point for the deposition of tails<br>Condition 13 – TSF ambient groundwater monitoring requirements<br>The following condition | Condition 12 included requiring the Licence Holder to undertake a monthly water balance for the TSF and provide this information within the Annual Environmental Report |

| Risk Event | | | | | Risk rating[1]<br>C = consequence<br>L = likelihood | Licence Holder's controls sufficient? | Conditions[2] of licence | Justification for additional regulatory controls |
|---|---|---|---|---|---|---|---|---|
| **Source/Activities** | **Potential emission** | **Potential pathways and impact** | **Receptors** | **Licence Holder's controls** | | | | |
| | | | | | | | has also been included:<br>**Condition 12** – Water balance for the TSF | |
| Tailings delivery and RWS pipelines | Spillage of tailings and decant return water through leaks, pipeline ruptures or failure | Discharges to land and infiltration to soils resulting in contamination and smothering of vegetation | Soils<br>Surrounding vegetation | Refer to Section 3.1 | C = Moderate<br>L = Possible<br>**Medium Risk** | N | Licence Holder's controls imposed through:<br>Condition 5 – Pipeline requirements<br>The following conditions have also been included:<br>Condition 2 – Construction requirements for the WCP/CUP 2 return water and tailings pipelines taken from W6088/2017/1<br>**Condition 6** – Inspection of infrastructure | Requirement to undertake daily visual inspections of the tailings delivery and RWS pipelines has been included |
| Overtopping of TSF | Tailings or tailings water | Discharges to land and infiltration to soil resulting in contamination inhibiting vegetation growth and survival | Surrounding vegetation<br>Localised soil | Refer to Section 3.1 | C = Moderate<br>L = Unlikely<br>**Medium Risk** | Y | Licence Holder's conditions imposed through:<br>Condition 1 – Operational requirements for the TSF including freeboard<br>Condition 6 – Inspection of TSF embankment freeboard | N/A |
| SSP | TSF return water containing metals and | Seepage through SSP base or containment wall | Groundwater | Refer to Section 3.1 | C = Moderate<br>L = Unlikely | Y | Licence Holder's conditions imposed | N/A |

| Risk Event | | | | | Risk rating[1]<br>C = consequence<br>L = likelihood | Licence Holder's controls sufficient? | Conditions[2] of licence | Justification for additional regulatory controls |
|---|---|---|---|---|---|---|---|---|
| **Source/Activities** | **Potential emission** | **Potential pathways and impact** | **Receptors** | **Licence Holder's controls** | | | | |
| | metalloids | causing contamination of groundwater | | | **Medium Risk** | | through:<br>Condition 1 – Operational requirements for the SSP<br>Condition 13 – TSF ambient groundwater monitoring requirements | |
| | | Overtopping of SSP resulting in soil contamination and inhibiting vegetation growth and survival | Localised soil<br>Vegetation | Refer to Section 3.1 | C = Moderate<br>L = Unlikely<br>**Medium Risk** | N | Licence Holder's conditions imposed through:<br>Condition 1 – Operational requirements for the SSP including freeboard<br>The following condition has also been included:<br>**Condition 6** – Inspection of infrastructure<br>**Condition 7** – Authorised discharge point for the SSP Emergency Spillway | Condition 6 - Requirement to undertake daily visual inspections of the SSP embankment freeboard has been included<br>The Licence Holder has advised that following a high rainfall event a controlled release of water from the SSP may be required. Condition 7 has been included on the licence to authorise this discharge |
| PW Ponds | Process water typically comprising fresh groundwater, sediments and process liquor | Overtopping of PW Ponds resulting in soil contamination and inhibiting vegetation growth and survival | Localised soil<br>Vegetation | Refer to Section 3.1 | C = Moderate<br>L = Unlikely<br>**Medium Risk** | N | Licence Holder's condition imposed through:<br>Condition 1 – Operational requirements for the | Condition 6 - Requirement to undertake daily visual inspections of the PW Ponds has been |

| Risk Event | | | | | Risk rating[1]<br>C = consequence<br>L = likelihood | Licence Holder's controls sufficient? | Conditions[2] of licence | Justification for additional regulatory controls |
|---|---|---|---|---|---|---|---|---|
| **Source/Activities** | **Potential emission** | **Potential pathways and impact** | **Receptors** | **Licence Holder's controls** | | | | |
| | | | | | | | PW Ponds<br>The following conditions have also been included:<br>Condition 2 – Construction requirements for the WCP PW Pond and WCP Settling Ponds taken from W6088/2017/1<br>**Condition 6** – Inspection of infrastructure | included. |

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2020).

Note 2: Proposed Licence Holder's controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

# 4. Consultation

Table 9 provides a summary of the consultation undertaken by the department.

**Table 9: Consultation**

| Consultation method | Comments received | Department response |
|---|---|---|
| DEMIRS advised of proposal on 12 March 2024 | No comments received | N/A |
| Licence Holder was provided with draft amendment on 16 April 2024 | The Licence Holder provided responses to the department's request for further information within the draft amendment<br>The Licence Holder did not provide comments on the draft Licence or Amendment Report | Documents updated accordingly to incorporate the Licence Holder's responses. |

# 5. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a Revised Licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

## 5.1 Summary of amendments

Table 10 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

**Table 10: Summary of licence amendments**

| Condition no. | Proposed amendments |
|---|---|
| Registered business address | Updated in line with the Australian Securities & Investments Commission |
| Premises details | Inclusion of suburb |
| Prescribed premises category description | Category 8 approved production capacity increased from 12,500,000 tonnes per annum to 25,000,000 tonnes per annum |
| Condition 1 | Inclusion of operational requirements for the Processing Plants (WCP/CUP 1 and WCP/CUP 2), TSF, SSP and PW Ponds<br>Administrative updates made to Infrastructure location of existing site infrastructure and equipment to reflect Figures (where applicable) in Schedule 1 |
| Condition 2 | Inclusion of construction requirements for the WCP/CUP 2 taken from W6088/2017/1<br>Figures included in Schedule 1 as applicable |
| Condition 3 | Inclusion of condition 3 authorising the operation of the infrastructure constructed under condition 2 following the submission of compliance documentation |
| Previous condition 3 | Deleted, as this is now covered under new condition 4 |

| Condition no. | Proposed amendments |
|---|---|
| Condition 4<br>(Previous condition 3) | Updated to include the facility, processes and process limits and/or specifications<br>Inclusion of the WWTP1 and WWTP2 design capacity limits |
| Condition 5 | Inclusion of condition relating to the pipelines |
| Condition 6 | Inclusion of condition relating to the inspection of infrastructure for the pipelines; embankment freeboard of the TSF and SSP; and PW Ponds |
| Condition 7 | Inclusion of condition for the authorised discharge points for the TSF, SSP Emergency Spillway and Irrigation spray fields |
| Condition 8<br>(Previous condition 2) | Administrative updates only |
| Condition 9 | Inclusion of general monitoring requirements specifying the number of days in between the days on which samples are to be taken for monthly and quarterly monitoring periods |
| Condition 10 | Inclusion of condition ensuring all monitoring equipment is calibrated |
| Condition 11<br>(Previous condition 4) | Administrative updates only |
| Condition 12 | Inclusion of condition to ensure a water balance for the TSF is undertaken |
| Condition 13 | Inclusion of condition for the ambient groundwater monitoring around the TSF and SSP<br>Monitoring requirements as per W6088/2017/1 |
| Condition 14<br>(Previous condition 5) | Administrative updates only |
| Condition 15 | Inclusion of condition to ensure all samples analysis undertaken by NATA accredited laboratories as applicable |
| Condition 17 | Inclusion of condition requiring the Licence Holder to undertake an audit and submit a report following the construction of infrastructure under condition 2 |
| Condition 18 | Inclusion of condition specifying what the report required by condition 17 must contain |
| Condition 20 | Inclusion of condition for the annual submission of an Annual Environmental Report and associated reporting requirements |
| Condition 21 (Previous condition 8) | Administrative updates only |
| Condition 22 (Previous condition 9) | Administrative updates only |
| Definitions | Inclusion of definitions as required in line with conditions |
| Schedule 1, Figures | Inclusion of Figures 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 15 |

# References


1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
4. Martinick Bosch Sell Pty Ltd (MBS Environmental) 2023, *Thunderbird Mineral Sands Project Environmental Compliance Report*, prepared for Thunderbird Operations Pty Ltd, August 2023 (DWER reference DWERDT815414).
5. MBS Environmental 2024, *Thunderbird Mineral Sands Project Licence Amendment Supporting Information (L9335/2022/1)* prepared for Thunderbird Operations Pty Ltd, January 2024 (DWER reference A2247306).
6. Thunderbird Operations Pty Ltd (TOPL) 2021, *Thunderbird Mineral Sands Project Environmental Management Plan* (Version 1.0), October 2021 (DWER reference A2254809).
7. TOPL 2024a, *Addendum to Amendment of Environmental Licence L9335/2022/1*, dated 26 March 2024 (DWER reference A2266447).
8. TOPL 2024b, *TOPL Response to Outstanding Items for Amendment of Environmental Licence L9335/2022/1*, received 08 May 2024 (DWER reference A2276544).

# Appendix 1: Application validation summary

| SECTION 1: APPLICATION SUMMARY | | | | | |
|---|---|---|---|---|---|
| **Application type** | | | | | |
| Amendment to licence | ☒ | Current licence number: | L9335/2022/1 | | |
| | | Relevant works approval number: | W6088/2017/1 | N/A | ☐ |
| Registration | ☐ | Current works approval number: | | None | ☐ |
| Date application received | | 09/01/2024 | | | |
| **Applicant and Premises details** | | | | | |
| Applicant name/s (full legal name/s) | | Thunderbird Operations Pty Ltd (ACN 611 351 743) | | | |
| Premises name | | Thunderbird Mineral Sands Project | | | |
| Premises location | | Mining tenement L04/85, part of L04/86, part of M04/459, part of L04/84, L04/82 and L04/83<br>WATERBANK WA 6725 | | | |
| Local Government Authority | | Shire of Broome | | | |
| **Application documents** | | | | | |
| HPCM file reference number: | | DER2022/000219 | | | |
| Key application documents (additional to application form): | | • Thunderbird Mineral Sands Project Licence amendment supporting information (L9335/2022/1)<br>• Appendices including:<br>- Appendix 1: TSF Operations and Maintenance Manual<br>- Appendix 2: TSF Water Balance Memo<br>- Appendix 3: Stakeholder Engagement Register<br>- Appendix 4: Groundwater Monitoring Results<br>- Appendix 5: TSF Category Checklist<br>• Addendum to Licence amendment received 26/03/2024 | | | |
| **Scope of application/assessment** | | | | | |
| Summary of proposed activities or changes to existing operations. | | Licence amendment to include the operation of the following infrastructure constructed under W6088/2017/1:<br>• Processing plant (9 Mtpa (Wet Concentration Plant (WCP)/ Concentrate Upgrade Plant (CUP) 1<br>• Process Water Ponds<br>• Tailings Storage Facility (TSF) (19 Mt)<br>• Stormwater Storage Pond (SSP) (Max capacity: 1,333,200 $m^3$)<br>• Return water and tailings pipelines<br>Environmental Compliance Report (ECR) and Commissioning Report (CR) -<br>• ECR for WCP/CUP1 and return water and tailings pipelines received 08/11/2023; and CR received 17/01/2024<br>• ECR for TSF and SSP received 02/08/2023 and CR received 02/11/2023<br>Addendum requested increase in category 8 design capacity and inclusion of construction requirements from W6088/2017/1 for WCP/CUP 2 (not yet constructed). | | | |

**Category number/s (activities that cause the premises to become prescribed premises)**

**Table 1: Prescribed premises categories**

| Prescribed premises category and description | Assessed production or design capacity | Proposed changes to the production or design capacity (amendments only) |
|---|---|---|
| Category 8: Mineral sands mining or processing | 12,500,000 tonnes per annum | 25,000,000 tonnes per annum |
| Category 54: Sewage facility | WWTP 1: 100 $m^3$/day<br>WWTP 2: 17.5 $m^3$/day | No change |
| Category 89: Putrescible landfill site | 1,100 tonnes per annum | No change |

**Legislative context and other approvals**

| | | |
|---|---|---|
| Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal? | Yes ☐ No ☒ | Referral decision No:<br>Managed under Part V ☐<br>Assessed under Part IV ☐ |
| Does the applicant hold any existing Part IV Ministerial Statements relevant to the application? | Yes ☒ No ☐ | Ministerial statement No: 1080<br>EPA Report No: 1606 |
| Has the proposal been referred and/or assessed under the EPBC Act? | Yes ☒ No ☐ | Reference No: EPBC 2016/7648 |
| Has the applicant demonstrated occupancy (proof of occupier status)? | Yes ☒ No ☐ | Certificate of title ☐<br>General lease ☐ Expiry:<br>Mining lease / tenement ☒ Expiry:<br>Other evidence ☐ Expiry: |
| Has the applicant obtained all relevant planning approvals? | Yes ☐ No ☐ N/A ☒ | Approval:<br>Expiry date:<br>If N/A explain why? Mining tenure |
| Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal? | Yes ☒ No ☐ | Ministerial Statement 1080 authorises land clearing |
| Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal? | Yes ☐ No ☒ | Application reference No: N/A<br>Licence/permit No: N/A |
| Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal? | Yes ☒ No ☐ | Licence/permit No: GWL201977 |

| | | |
|---|---|---|
| Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)? | Yes ☐ No ☒ | Name: Canning Kimberley<br>Type: Proclaimed Groundwater Area<br>Has Regulatory Services (Water) been consulted?<br>Yes ☐ No ☐ N/A ☒<br>Regional office: North West |
| Is the Premises situated in a Public Drinking Water Source Area (PDWSA)? | Yes ☐ No ☒ | Name: N/A<br>Priority: N/A<br>Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)?<br>Yes ☐ No ☐ N/A ☒ |
| Is the Premises subject to any other Acts or subsidiary regulations (e.g. *Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx*) | Yes ☒ No ☐ | *Mining Act 1978*<br>Mining Proposal and Mine Closure Plan Reg ID 114659<br>*Radiation Safety Act 1975*<br>*Native Title Act 1993 (Commonwealth)*<br>*Aboriginal Heritage Act 1972*<br>*Environmental Protection (Unauthorised Discharges) Regulations 2004* |
| Is the Premises within an Environmental Protection Policy (EPP) Area? | Yes ☐ No ☒ | N/A |
| Is the Premises subject to any EPP requirements? | Yes ☐ No ☒ | N/A |
| Is the Premises a known or suspected contaminated site under the *Contaminated Sites Act 2003*? | Yes ☒ No ☐ | Tenement L04/85<br>Classification: remediated for restricted use (RRU)<br>Date of classification: 31/10/2023 |